U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

[redacted] -07-F

AND

STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

FINAL
ENVIRONMENTAL STATEMENT

FOR

I-IG 90-3(7)168 & I 90-3(2)179
Garrison East & West

THIS HIGHWAY IMPROVEMENT IS PROPOSED FOR FUNDING UNDER TITLE 23, U.S.C. THIS STATEMENT FOR THE IMPROVEMENT WAS DEVELOPED IN CONSULTATION WITH THE FEDERAL HIGHWAY ADMINISTRATION AND IS SUBMITTED PURSUANT TO:

42 USC 4332 (2) (c)

DATE 9-1-74 H.J. ANDERSON
DIRECTOR OF HIGHWAYS

By Jack P. Redeker
Administrator, Engineering Div.

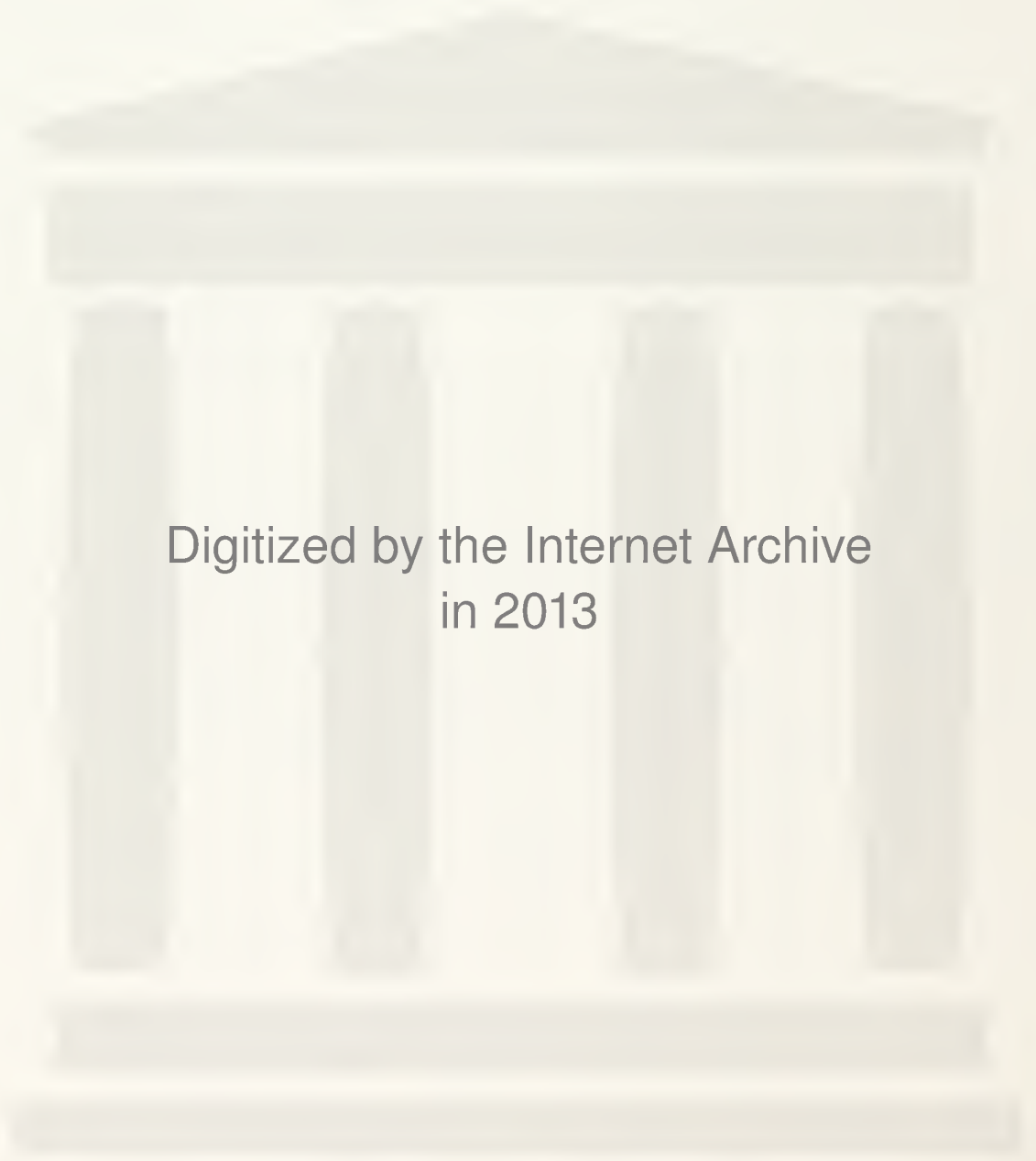
APPROVED AND ADOPTED BY FHWA

DATE _____ By _____
Federal Highway Administration -
Regional Engineer

INTRODUCTION

Design approval for this project was previously granted by the Federal Highway Administration on January 28, 1971. The project was then reassessed in accord with Paragraph 5c. of the Department of Transporation PPM 90-1 on April 23, 1971. This reassessment was approved by the Federal Highway Administration on June 1, 1971. In November, 1972 the F.H.W.A. advised that reassessments would no longer suffice for projects not yet under construction. As a consequence this environmental impact statement was prepared.

The design and construction plans for the highway and structures are complete. Acquisition of right-of-way has been underway since March 9, 1972. Of the total of 38 parcels on the project, possession of 24 parcels has been obtained by the Montana Department of Highways.



The following people contributed either directly or indirectly to the preparation of this statement. A brief background resume is included.

Gerald L. Anders received a B.S. degree in Civil Engineering from Montana State University and is a registered Professional Engineer in Montana.

He is Supervisor of the Consultant Design Section and has 12 years experience with the Department of Highways in highway engineering.

Mr. Anders has worked on the preparation of environmental statements for the Department since the initiation of the National Environmental Policy Act.

Daniel Bartsch is a graduate of the Univeristy of Montana and holds a B.S. degree in Business Administration. He was employed for nine years by the Montana Power Company.

Mr. Bartsch has 7 years experience with the Montana Department of Highways and his current position is that of Socio-Economic Studies Coordinator.

Bruce W. Becker is a graduate of Michigan State University with a B.S. in Zoology. He holds a M.S. in Fish and Wildlife Management from Montana State University.

He worked two months as Consulting Research Biologist for the U.S. Park Service and has seven months experience with the Montana Department of Fish and Game.

Mr. Becker has been reviewing environmental impact statements as Biologist for the Montana Department of Highways for one year.

D.J. Brent has a B.S. degree from Montana State University in Construction Technology and is a registered Professional Engineer in Montana. He was design Project Engineer for the Consultant firm of Morrison-Maierle, Inc. on the Interstate 90, Garrison East and West project.

Mr. Brent has four years experience in highway engineering and two years experience with Morrison-Maierle's Environmental Design Section.

David S. Johnson graduated from the Montana School of Mines with a degree in Geological Engineering and has since done graduate studies in the engineering and environmental fields.

He is Engineering Specialties Supervisor for the Montana Department of Highways and has 17 years experience in highway engineering.

Mr. Johnson is a registered Professional Engineer in Montana and has worked on the preparation of environmental statements since the inception of NEPA.

S.C. Kologi received a B.S. degree in Civil Engineering from Montana State University and is a registered Professional Engineer in Montana.

He is Chief of the Preconstruction Bureau and has 15 years experience with the Department of Highways in highway engineering.

Mr. Kologi has worked on the preparation of environmental statements for the Department since the initiation of the National Environmental Policy Act.

Albert N. Kraft is a registered Professional Engineer in Montana with a B.S. degree in Civil Engineering from Montana State University. Mr. Kraft is Chief Highways Engineer for the consultant firm of Morrison-Maierle, Inc. and has fifteen years experience in highway engineering. He worked on the preparation of Interstate 15 environmental statement, Butte to Boulder.

E.A. Nurse is president of Foundation and Materials Consultants, Inc. He holds a B.S. degree in Civil Engineering from Montana State University and a M.S. in C.E. from the University of California. He is a registered Professional Engineer in Montana and Idaho.

Mr. Nurse has 20 years experience in the geology field and participated in geology and site studies, exploration and testing on road and bridge foundation and slope determinations as consultant to Morrison-Maierle, Inc.

C.L. Riley is a registered Engineer-in- Training and holds a B.S. degree in Civil Engineering from Montana State University.

He has one year experience in highway engineering and surveys with the consultant firm of Morrison-Maierle, Inc.

N.A. Rotering received an LLB degree, now Juris Doctorate, from Georgetown University. He is a member of the Montana Bar and has been in private practice of law in the State of Montana since 1937.

Mr. Rotering is also a member of the bar of the District of Columbia, U.S. Court of Appeals and U.S. Supreme Court.

He has had 12 years experience as a deputy in the Silver Bow County Attorney's office and 4 years as County Attorney. He was a Special Assistant Attorney General from 1957 to 1968 and has been Administrator of the Legal Division of the Department of Highways since 1969.

James G. Sahinen has twenty-eight years experience with the Montana Department of Highways in highway engineering.

He attended Carroll College and Montana State University.

Mr. Sahinen has been reviewing environmental statements for the Department since the inception of the National Environmental Policy Act. He is Assistant Supervisor of the Consultant Design Section.

Frank Stermitz is a graduate of Montana State University with a B.S. degree in Civil Engineering and a registered Professional Engineer in Montana. He has 35 years experience with the U.S. Geological Survey in Montana relating to surface water studies and reports.

Mr. Stermitz prepared the hydraulics study for Morrison-Maierle of the Little Blackfoot River as affected by the proposed Interstate bridge crossing south of Garrison.

Sources of Data on Which the Statement and Its Conclusions Are Based:

1. Public hearing transcripts.
2. Field review plan-in-hand reports and design study reports.

3. The study of alternate alignments entitled "A Report on Location and Design - Garrison East and West" prepared by Morrison-Maierle, Inc.

4. Aerial photography and aerial mapping

5. Project construction and right-of-way plans

6. Montana Dept. of Highways Standard Specifications for Road and Bridge Construction.

7. Special provision specifications for the project

8. Maps prepared by U.S. Geological Survey

9. Personal knowledge acquired during the detailed studies and design of the proposed project, both in the office and on the site

10. Review conferences involving personnel of the Montana Dept. of Fish and Game

11. "Subsurface Investigation and Slope Design Report- Garrison East and West", by Foundation & Materials Consultants

12. "Hydraulic Report - Little Blackfoot River Bridge Site", by Morrison-Maierle, Inc.

TABLE OF CONTENTS

SUMMARY

I. TYPE OF ACTION

(X) Administrative

( ) Draft

(X) Environmental Statement

( ) Combined Environmental/Section 4(f) Statement

(X) Final

II. PROJECT DESCRIPTION

This project is identified as Garrison East and West, I-IG 90-3(7)168 & I 90-3(2)179. It is a segment of I-90 in Powell County between Butte and Missoula, Montana. The project begins 1.8 miles northwest of the town of Garrison and extends 7.5 miles, southeast, generally along existing primary highway U.S. 10, where it joins completed I-90 five miles north of Deer Lodge, Montana. It will be a four lane, controlled access facility with both independent and parallel vertical and horizontal alignment. Public and private access will be maintained by construction of three interchanges, a grade separation, and access and frontage roads. The current tentative date for bid letting for project construction is January, 1975.

III. ENVIRONMENTAL IMPACTS

The project will provide a safe and efficient travel facility to and through the area. Although the character of the area will change within some sections of the project, this change will not be significant. Displaced persons have either been satisfactorily relocated or suitable replacement facilities are available as provided for by the Department of Highways' relocation assistance program.

The Interstate alignment deviates from the present travelled way, U.S. 10, through the east portion of the town of Garrison and will cause some reduction in exposure of roadside businesses to traffic.

The project lies in an area of light vegetative cover. 124 acres of cultivated and 93 acres of grazing land will be taken for the project. Two thirds of the total length of the project will be completely or partially coincident with the present highway. Thus, much of the grading and slope work will overlie existing cut and fill slopes.

The Little Blackfoot River will be crossed with bridges at one site. The Clark Fork parallels the new alignment for three miles of the project but no encroachment on the existing stream banks will be required by the new highway.

The general ecology of the area is not expected to change significantly. Due to the close proximity of the project to the existing highway, wildlife patterns will not be altered appreciably.

Some increase in noise and exhaust emissions from the traffic will occur as traffic volumes increase in the future. These will not exceed established minimums.

IV. ALTERNATIVES

One alternative would be to continue to use the existing highway, but it would not safely and adequately take care of the projected future traffic volumes. The no build alternate would not be in compliance with the legislation for the Interstate system and would leave a hazardous gap in the network. Three other alternate locations were studied in addition to the final selected location. These are discussed in Section IV-C.

V. FEDERAL, STATE AND LOCAL AGENCIES, AND OTHER ORGANIZATIONS FROM WHICH COMMENTS WERE REQUESTED

* Denotes Agencies Which Commented on the Draft Statement

Montana Department of Fish & Game
Division of Environment & Information
Attn: Ralph Boland
Sam W. Mitchell Bldg.
Helena, Montana 59601 (2 copies)

Environmental Quality Council
Room 366, State Capitol Bldg.
Helena, Montana 59601 (2 copies)

Dept. of Intergovernmental Relations
Planning & Economic Dev. Division
Capitol P.O. (1716 9th Ave.)
Helena, Montana 59601

Mont. Department of Natural Resources
& Conservation
32 South Ewing
Helena, Montana 59601

Department of Housing and Urban
Development
Regional Administrator
Denver Regional Office
Federal Office Building
19th and Stout Streets
Denver, Colorado 80202

Geological Survey
Federal Center
Denver, Colorado 80225

U.S. Geological Survey
Federal Building
Helena, Montana 59601

*Environmental Protection Agency
Room 916, Lincoln Tower
1860 Lincoln Street
Denver, Colorado 80203 (5 copies)

Economic Development Association
Regional Director
Rocky Mountain Regional Office
Suite 505, Title Building
909 17th St.
Denver, Colorado 80202

*Assistant Secretary-Program Policy
Director, Environ. Project Review
Department of the Interior
Washington, D.C. 20240 (9 copies)

Student Environmental Research Center
Room 212, Venture Center
University of Montana
Missoula, Montana 59801

*United States Dept. of Agriculture
Soil Conservation Service
P.O. Box 970
Bozeman, Montana 59715

Dept. of Health & Environmental Sciences
Cogswell Building
Helena, Montana 59601

Agriculture Stabilization & Conservation
Service
Box 670
Bozeman, Montana 59715

Soil Conservation Service
4930 9th Ave. South
Great Falls, Montana 59401

Department of the Army
Seattle District, Corps of Engineers
1519 Alaskan Way South
Seattle, Washington 98134

Dept. of Health, Education and Welfare
9017 Federal Office Bldg.
19th and Stout Streets
Denver, Colorado 80202

U.S. Coast Guard; Cmdr. (mep)
13th District U.S. Coast Guard
618 2nd Avenue
Seattle, Washington 98104

Regional Planning Association of Western
Montana
133 West Main Street
Missoula, Montana 59801

Governor's Office
Capitol Building
Helena, Montana 59601

Documents Department
Montana State LIbrary
930 East Lyndale
Helena, Montana 59601 (20 copies)

*Weather Bureau
P.O. Box 11188
Federal Building
128 So. State Street
Salt Lake City, Utah 84111

School Board
Garrison, Montana 59731

County Commissioners
Powell County Courthouse
Deer Lodge, Montana 59722

Rural Electrification Administration
Montana Associated Utilities
Rainbow Western Hotel
Great Falls, Montana 59401

Department of Agriculture
Dr. T.C. Byerly
Office of Sec. of Agriculture
Washington, D.C. 20250

Postmaster
Garrison, Montana 59731

County Superintendent of Schools
Powell County
Deer Lodge, Montana 59722

VI. DATE DRAFT STATEMENT MADE AVAILABLE TO C.E.Q.

May 6, 1974

FINAL STATEMENT

GARRISON EAST & WEST INTERSTATE

I-IG 90-3(7)168 & I 90-3(2)179

I. PURPOSE

The purpose of this project is to complete a 7.5 mile segment of Interstate 90.

Provision for the Interstate Highway System was established in the National System of Interstate and Defense Highways Act of 1954. Construction of this project would be in compliance with this act. In addition, I-90 is a major east-west route in the state transportation network. Revision of this section of road to four lane standards would provide a more safe and efficient transportation facility.

II. DESCRIPTION OF THE PROJECT

The Garrison East and West project begins 1.8 miles northwest of Garrison at the east end of the completed 4-lane Gold Creek East Project. It extends in a southeasterly direction for 7.0 miles where the east-bound lanes connect with the existing 2-lane, I-90 facility north of Deer Lodge, Montana. The west bound lanes continue 0.5 mile as add-2-lane where they then connect with the completed four lane Deer Lodge North and South project. See Figure 1 for the proposed location.

The proposed four lane divided highway will have 2 east bound and 2 west bound lanes. Driving lanes will be 12 feet wide; outer shoulders will be 10 feet wide and inside shoulders 4 ft. wide. Access will be controlled throughout the length of the project. From the beginning of the project to a point about 3.5 miles easterly, the highway alignment will be a wide median design, with a 100' center-to-center spacing between pairs of lanes. From this point to the end of the four lane portion, the design will consist of independent vertical and horizontal

alignment, with a maximum center-to-center split of 268 feet. From the end of the four lane portion to the end of the add-2-lane portion, the distance from center to center of roadways will be 80 feet.

The recently updated traffic data for the project is as follows:

1972 ADT (Average Daily Traffic - No. of vehicles in both directions)	3227
1994 ADT	5700
1994 DHV (Design Hourly Volume - No. of vehicles in both directions)	750
D (Direction % distribution of DHV)	55%-45%
T (Trucks as a % of DHV)	16.5%
V (Design speed for proposed highway)	70 m.p.h.

Horizontal and vertical alignments meet Montana Department of Highways' requirements for 70 MPH design of Interstate Highways. The maximum curvature is 3^{o} 30' and all curves 1^{o} 30' and greater are designed with transition spirals. The maximum superelevation is 8%.

Grades are less than 3%, with the exception of a short section of 3.9% grade about 1 mile from the project beginning. Eastbound and westbound grades will be identical from the beginning to about 3 miles easterly, then the lanes will separate on independent vertical alignments.

Three interchanges will be included in the project. Two will provide access to Garrison and U.S. 12, and the third to the Beck Hill County Road. They are described as follows:

1. West Interchange - This will be a two ramp, free-flow-movement interchange providing eastbound-off and westbound-on facilities at the town of Garrison.

2. East Interchange - This three ramp interchange will consist of a free-flow westbound off-ramp, a free-flow eastbound on-ramp, and an eastbound off-ramp with a stop sign. It will be located about a mile and a half southeast of Garrison at the intersection with U.S. 12.

3. Beck Hill Interchange - This will be a conventional diamond interchange to be constructed near the easterly end of the project, where it intersects with the Beck Hill County Road.

Three structures will be included in this project to provide crossings over the Little Blackfoot River and the existing railroad. The structures for both the East and West Interchanges will serve a dual purpose by bridging both the interchange crossroads as well as the main Burlington Northern railroad tracks. Local access roads will also be bridged at the West Interchange. The two combined railroad-interchange crossings will be constructed of steel. The length of the West Interchange structure will be 708 feet, while the East Interchange and railroad structure will be 591 feet long.

The Little Blackfoot River Bridge will be 132 feet in length. It will be constructed with prestressed concrete beams.

The Beck Hill Interchange structure will carry the crossroad over the Interstate and will be constructed of steel.

A highway separation near the end of the project, two vehicular underpass structures, three access roads and two frontage roads will fulfill local access

requirements. The following will comprise the project's frontage and access road system.

1. Line W - A 28 foot paved 2-lane frontage road from Garrison to the west end of the project where it will connect with Highway U.S. 10. U.S. 10 will remain as part of a frontage road link to the Warm Springs Creek and Phosphate areas to the west.

2. Line Y - A 20 foot wide gravel surface access road will permit traffic movement from Garrison to the railroad spur loading area southeast of Garrison.

3. Beck Hill Access Road - A 20 foot wide gravel surface access road which will provide one property owner with access to the Beck Hill Interchange.

4. Line R - A 28 foot wide paved 2-lane road which will connect the Beck Hill Interchange to the existing county road.

5. Beck Hill Frontage Road - A 28 foot wide paved 2-lane frontage road extending south from the Beck Hill Interchange on the west side of the Interstate and parallel with it. It will connect to the existing frontage road which extends south to Deer Lodge.

The only major drainage to be crossed is the Little Blackfoot River, which will be bridged. Other minor drainage crossings will be accommodated with culverts. Design of drainage structures is based on the maximum storm runoff that would occur within a 50 year period. A flood hazard evaluation for a 100 year flood will be made.

Two thirds of the project length will be completely or partially coincident with the present highway. The width of required new right-of-way varies. Altogether, 235 acres will be purchased. This consists of 124 acres of agricultural land, of 93 acres of grazing land, and 18 acres of commercial-residential land. 255 acres of existing highway right-of-way will be used.

Material from the new highway excavation will be insufficient to construct the new embankments required, so additional material must come from other sources.

III. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. TERRAIN

1. Physiography - The project lies within the narrow valley bottom of the Clark Fork River. The valley bottom varies from one half mile to one mile in width and is bordered by hills and benches of varying slope steepness. More remotely removed from the bordering hills are three mountain ranges: the Garnet Range to the north, the Continental Divide to the east, and Flint Creek Range to the west. The elevation in Garrison is 4333 feet and bordering hills rise up to 5000 feet.

The Little Blackfoot River which flows from the east joins the Clark Fork near the middle of the project. Easterly from this point the Clark Fork is a continuous series of meanders. Old abandoned meanders which have been cut off by natural river erosion and by past railroad and highway construction are evident throughout the area. The only other stream draining into the Clark Fork from the east is O'Neill Creek; an intermittent stream located near the east end of the project. Both the Little Blackfoot River and O'Neill Creek

are crossed by the present and proposed highways. The adjacent benches and hills are cut by other minor drainages.

2. Geology - The geology of the region is from the middle-late Cretaceous period. There are two major geologic formations in the region. The Carter Creek Formation includes 4500 feet of marine, brackish, and fresh water deposits. These were deposited in the Clark Fork Valley during the recession of the Continental Cretaceous Sea. The Golden Spike Formation lies above the Carter Creek Formation and is composed of 5000 to 8000 feet of volcanic and non-volcanic rocks. The contact zone between the two formations cannot be identified in the area but runs in a general north-south direction through the town of Garrison with the Golden Spike Formation lying to the west.

Laramide folding and erosion appears to have triggered massive slides and flows in the area. These are evident in the railroad cuts west of Garrison where large blocks of volcanic and non-volcanic rocks are hinged with a conglomerate matrix and show a marked change in dip and strike.

The non-volcanic rocks were deposited on an alluvial plain adjacent to the highlands. Volcanic sediments which appear to pinch out to the west were probably transported from the east and southeast. The exposed clastic chert pebble debris near Garrison was transported from the west. The result of this interfingering phenomenon is a bedding complex in which the sediments are alternately volcanic and non-volcanic. Subsequent folding, structural movement, and spasmodic erosion with transportation, and mass flows with landslides, have left this area in its present form.

The Clark Fork river has shaped the valley floor topography and is continuing the erosional process. Flat lying Tertiary sediments and Quaternary gravels overlie the folded Golden Spike and Carter Creek strata along the low benches throughout the valley bottom.

3. Seismic Considerations - The project is located on the fringe area of Zone 3, the zone of greatest probability of seismic activity in which major damage may be expected. No major fault zones are in evidence in the project area. No special considerations are incorporated in the roadway design due to seismic loadings, but all major structure design incorporates seismic loads.

4. Vegetation - Vegetation on the hills and benches on the east side of the river consists of a sparse grass cover with scattered juniper trees and shrubs. The tree cover on the hills southwest of Garrison is thicker and consists of fir and pine. Cottonwood trees, willows, dogwood, and chokecherry are found along the river bottom. The natural grasses of the area include rough fescue and bluebunch wheatgrass. Cultivated land in the project area consists of hay meadows.

B. CLIMATE

The climate of the Garrison area is classified as semi-arid, with the mean annual precipitation being 12 inches. The periods of peak precipitation are during the spring and late fall - early winter. The temperature ranges from an average minimum of 10^{o}F. in January to an average maximum of 80^{o}F. in July. The prevailing winds are from the west and northwest at an average velocity of 7 MPH. The average growing season is 95 days.

C. FISH AND WILDLIFE

According to the Department of Fish and Game, the predominant game fish species in the Garrison area is the brown trout. These are found in both the Clark Fork and Little Blackfoot River. Both rivers support smaller populations of rainbow trout, cutthroat trout, brook trout, whitefish and dace. The Little Blackfoot River also contains sculpins. Whitefish and the trout species are considered game fishes;

sculpins and dace are forage fishes. Both rivers are considered good sports fisheries.

Mule deer and whitetail deer are big game animals found in the area. Some beaver are found near the rivers. Although pheasants, sharptails, ruffed grouse, and Hungarian partridge might be expected to occur in the area of the project, they are not plentiful. Blue grouse may be found in areas in which douglas fir provides the main cover but this does not occur immediately adjacent to the project. Song birds such as the veery and several species of sparrows inhabit the area. To our knowledge, no endangered wildlife species exist in the vicinity of the project.

D. LAND USE

The majority of land bordering the Interstate project is agricultural land used for cattle grazing and hay production. Some of the hay meadows are irrigated. Residences and commercial retail stores occupy land in the town of Garrison. Railroad right-of-way occupies a broad strip of land through town and narrower strips east, west, and south of town.

To our knowledge there is one subdivision (unrecorded) within the project area at this time.

E. TOWN OF GARRISON

The only concentration of human resources along the project is the unincorporated community of Garrison. The 1970 census lists its population as 150. Other families live on farms and ranches in the vicinity. Some residents are employed at the phosphate mining operation on Warm Springs and Brock Creeks, which intersect the Interstate a few miles west of Garrison.

Limited community facilities and services are available. There is no rural mail service. Mail is held for pickup at the Post Office in Garrison. A volunteer fire department with one fire truck is active in Garrison and and the Deer Lodge Fire Department is available for assistance. There are no hospital services. There was one church in Garrison but this has been removed as a result of right-of-way negotiations. The local school in Garrison is located north of the existing highway and provides eight grades; high school students attend classes in Deer Lodge. Both elementary and high school students are bussed. The commerce in Garrison depends on a garage, a service station, a lumber mill, a chemical reduction plant, a railroad, a grocery store, two bars, a hotel, a combined service station and cafe, and a trailer court. Major purchases must be made elsewhere. The County Seat of Powell County is at Deer Lodge (1970 population: 4306) eleven miles to the southeast. Four of Montana's larger cities (Missoula, Helena, Butte, and Anaconda) are all less than 70 miles from Garrison.

The town has developed into two separate concentrations of buildings. The older part is near the railroad station south of the present highway. The newer area is north of the present highway and west of the junction of U.S. 10 and U.S. 12. See Figure I: Location Plan.

F. EXISTING HIGHWAY FACILITIES

The Garrison area is presently served by primary highway U.S. 10. It is a two lane east-west facility that joins constructed portions of Interstate 90 at both ends of this project.

A major junction exists at Garrison and will be perpetuated. U.S. 12 leaves I 90 here and extends east to serve the state capitol, Helena.

U.S. 10, which is to be replaced by the proposed Interstate, is in good repair but is only 24 feet wide. It is underwidth according to current highway standards for present traffic volumes and without improvement would become increasingly overloaded and more hazardous in the future.

All traffic on U.S. 10 now travels through the town and through the junction with U.S. 12.

G. TRANSPORTATION

Garrison is a transfer point for freight on the Burlington Northern Railroad where the line from Missoula divides and extends on to both Butte and Helena. The east-west Amtrak passenger train goes through Garrison three times a week each way but does not stop there. The closest point for boarding or disembarking from this train is Butte.

The C.M. St. P. & P. Railroad route passes through the Garrison vicinity on the west side of the river but there is no depot or service.

Bus service is provided by the Greyhound Express Company lines. Truck freight service is available by a number of carriers.

There is no airfield at Garrison. The nearest scheduled commercial airline service is available in Butte and Helena. The nearest airfield is located at Deer Lodge and serves light aircraft only.

H. UTILITIES

The electric and natural gas services in the area are supplied by the Montana Power Company. Telephone service is provided by Mountain Bell from their Deer Lodge, Montana, exchange.

Railroad telegraph lines run parallel with the tracks. A high voltage transmission line and the buried, petroleum products line of the Yellowstone Pipeline Company pass through the area north of Garrison in an east-west direction.

I. SECTION 4(f) LANDS

There are no designated Section 4(f) public lands such as parks, recreational lands, wildlife, or waterfowl refuges in the corridor to be affected by new highway construction. The proposed project will not traverse any forest lands.

J. HISTORICAL AND ARCHAEOLOGICAL SITES

There are no designated historic sites in the project area which come under the terms of the Historic Preservation Act of 1966 and there are none being considered for nomination. This is stated in the attached letter from the Administrator of the Recreation and Parks Division who is also the State Historic Preservation Officer.

There are no known sites of archaeological significance within the project area.

IV. EVALUATION OF ENVIRONMENTAL IMPACTS

A. ENVIRONMENTAL IMPACT OF THE PROPOSED HIGHWAY IMPROVEMENT

The new highway will produce some changes in the human environment within the limits of the project.

Since it is a designated section of the Interstate system, it will provide high safety standards. Its features of controlled access and divided traffic lanes have proven to be considerably safer than two lane uncontrolled access systems and will contribute to the safety of the Interstate users.

Additional safety measures include: bridge widths equal to the full width of the roadway including shoulders, roadside signing with impact breakaway post supports for vehicle occupant protection in case of collision, pavement striping of lanes, flat bottomed roadside drainage ditches allowing a recovery area for a vehicle out of control, and the use of guardrail where desirable. As the proposed facility will be on a new location through the town, it will decrease the number of vehicles which presently traverse the town on U.S. 12. This will reduce the collision hazard associated with the use and crossing of U.S. 12 by vehicles and pedestrians for inter-area movement of the community's inhabitants and for patrons of the roadside businesses.

This project will provide for more efficient traffic movement. It will accomodate higher volumes of traffic to, from, and through the project area. Local inhabitants will be better served for travel to larger population centers for medical, educational, religious, and commercial services. A faster, safer route for fire fighting equipment from Deer Lodge will be provided. East-west through traffic will have safer more economical service with a shorter distance to travel and without stops required. Trucking and commercial bus service to the community will be maintained through convenient interchange access to the Interstate.

The presently existing natural environment will be changed physically by the additions of the following: a portion of Interstate where no highway now exists, the greater width of highway in the areas where the new Interstate will coincide with the existing highway, some access roads and interchange ramps required for local service, and new structure crossings over the Little Blackfoot River and the railroad tracks.

The new highway is not expected to produce any long range changes in either the land use along it or in the character, functioning, cohesion, and growth of the community and region. No change is foreseen in conduct and financing of local government that can be attributed to the highway construction. The routing of rural traffic and the school bus will be altered due to controlled access of the Interstate but the access roads provided to meet the needs of the community will be equal to or better than the present access systems.

Some power, telephone, and natural gas lines will require relocation during construction but service will not be significantly disrupted.

An unhealthful slough condition which exists at the proposed junction of Line W and the new ramp termini in Garrison will be eliminated. Polluted surface runoff waters collect here and have no positive discharge path. Placement of fill material in the slough, contour grading and a positive outflow drainage system of culverts and drain ditch to the Clark Fork will prevent the accumulation of water. The pollution associated with these waters is expected to be significantly reduced from operation of a new private sewage treatment plant which the present truck stop business plans to have constructed.

The only displacement of people or buildings throughout the 7.5 mile project will be within a strip 600 feet in length in Garrison at the new West Interchange site. Included are ten residences, a church, a garage, and a service station business. The displacement of the two small businesses will create some unemployment unless they are reestablished elsewhere or the effect is counteracted by increased employment in other existing similar establishments. Displacees from nine residences have either been satisfactorily relocated or decent, safe and sanitary housing is available as provided for by the Department's relocation assistance program. One owner is in condemnation status at the present time.

Pedestrian movements between the two developed areas of the town now occur

on the existing unpaved streets. With the proposed project, these movements will be continued along the new Line W paved frontage road. More vehicle traffic will be encountered by pedestrians however, since this road will extend continuously west of Garrison from the railroad depot area where the present street terminates in a dead end. Consideration will be given to provide a footpath through this area along with crosswalk signing at some point on U.S. 12. A short pedestrian pipe underpass existing under the present highway at the west end of the town will become unuseable and will be removed. It lies within the new controlled access area of the Interchange and will be covered by thirty feet of new ramp embankment. It has not received much use in the past and is not being replaced.

With the exception of the bridging of the Little Blackfoot River and minor diking of the upstream bank, no channelization or alteration of stream bank vegetation will occur. Therefore, the project is not expected to adversely affect fish populations.

The project will traverse an area previously undisturbed by highway construction, this being about a mile in length near the stream bottom starting approximately 2 miles from the project beginning. This area could conceivably provide habitat for a few whitetailed deer and perhaps some game birds, although the proximity to the railroad tracks and human habitations decreases this likelihood. Construction of the project would further decrease the value of this area as wildlife habitat. It seems unlikely that this impact could be regarded as significant.

Other portions of the right-of-way have previously been disturbed by highway construction. Little additional land will be required and the new construction is not expected to significantly alter the existing nature of these areas. It is possible, however, that the right-of-way fence may hinder deer movements.

The controlled access nature of the facility will eliminate direct access

to about 7,000 feet of the north bank of the Clark Fork. Access to this stretch of stream would have to be gained by floating, or by permission from private landowners to the east, west, and on the south bank. Access to the south river bank from the county road south of the river is possible with permission to cross the land of the owners involved. The possibility of a fishing access site near the East Interchange crossroad was examined at the suggestion of the Montana Department of Fish and Game. Such a site is not considered feasible due to the hazardous conditions resulting from the proximity to the ramp junctions and the free flow nature of the traffic on the southbound on-ramp. In addition, the location of the railroad does not leave adequate space for a suitable approach road.

A possibility exists that the access road from the Beck Hill Interchange might be extended westerly approximately 2000 feet to provide public access to the Clark Fork at that point. This was discussed with the Department of Fish and Game and is presently being investigated.

The picnic table and outhouse owned by the Department of Highways and located at the present maintenance department's gravel stockpile area near the Beck Hill Interchange will no longer be directly accessible from the highway. It is not planned to perpetuate use of this area due to the need for some of this land for interchange ramp connection and due to the indirect access route which would be required. This facility has merely provided an incidental service and cannot be considered a park or recreation area.

There are no standard Interstate rest areas being provided on this project but full service rest areas exist for westbound and eastbound traffic at five and seven miles respectively west of Garrison on the adjoining Gold Creek Interstate project.

A short term beneficial economic impact on local retail trades and services will result during the term of construction. The school would likely experience

some increase in the number of students during this period. A temporary housing shortage may occur due to the influx of construction personnel. It is doubtful that these impacts would have any long term consequences.

B. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

1. Changes in the Land and Land Use - Approximately 235 acres of land will be needed for right-of-way for the new Interstate and access roads. This would include 93 acres of grazing land, 124 acres of agricultural land, and 18 acres of platted lots with building improvements in town. The existing highway occupies 255 acres. Part of the grazing land along the river has brush and tree cover, some of which will be removed. Several abandoned meanders of the Clark Fork will be filled in. Excavation through and along the hillsides will be required. Highway embankments will be constructed for stability across the lowlands and for approaches to the new interchange structures and the Little Blackfoot River crossing. The amount of material to be excavated from the new roadway will be less than the volume of new embankments required and the extra material will be obtained from sources outside the highway right-of-way.

The quantity of extra material will be approximately 850,000 cubic yards. The location of the sources for this material is not known at this time. However, excavated areas will be reshaped, topsoiled and seeded for revegetation upon completion of removal of the necessary material.

Disruption of the stream banks and the stream will occur to some extent at the Little Blackfoot River bridge site. Excavations will have to be made for the building of the pile-supported footings and piers and for placing protective riprap around them. The westerly stream bank between the new bridge and railroad bridge three hundred feet upstream will be modified with embankment and riprap to form a dike with an eight foot wide top extending two feet above high water. This dike is to prevent overflows onto the land to the west toward Garrison between the railroad and the Interstate during periods of high river flows. It is anticipated that this construction

will have only a minor effect on the stream banks.

2. Effects on People and Their Land Use Operations

A smaller number of vehicles will use U.S. 12 in Garrison and this may have some negative effect on the roadside businesses. Travel back and forth throughout the entire town will be unhindered although it will be altered somewhat. The new access road under the West Interchange structure will provide continuity of travel. Ten residences, a church, a garage and a service station will require removal, with resultant displacement of the affected residents. As previously stated, satisfactory relocations have been provided or are available through the Department's relocation assistance program.

With access to be controlled throughout the project length, direct access to properties at present locations along U.S. 12 and U.S. 10 will be severed. This will reduce some of the flexibility that presently exists for movement of cattle and machinery across the highway and for access to irrigation facilities. Access to the Clark Fork river for 7,000 feet where it is immediately adjacent to the highway will be eliminated but will remain unchanged on private land to the east, west, and on the opposite side. Access to both sides in other areas will be unaffected by the new Interstate. Access to most lands will be maintained by new access roads or will be available through existing access facilities. Some irrigation facilities and a stock underpass will be disrupted by new construction but will be replaced by new facilities to serve the necessary functions.

3. Air Quality -

There will be no long term increase in air pollution attributable to the traffic on the new facility. Even without the new facility, exhaust emissions will increase due to increasing traffic volumes. It is expected that present and future Federal pollution control regulations will, in time, reduce the volume of pollutants emitted with a possible net overall reduction in exhaust pollutants.

Implementation of this highway project is not anticipated to have a

significant air quality impact. Therefore, in accordance with paragraph 6.b (1) b of the air quality guidelines, the Department of Highways is not required to solicit comments from the air pollution control agency. The Montana Department of Health and Environmental Sciences, which is the agency designated as the state air pollution control agency, has previously informed us that Montana's Implementation Plan does not contain a section on transportation control strategy since Montana doesn't have a serious pollution problem caused by highway vehicles. This, therefore, is a confirmation of our statement of no significant air quality impact and also a blanket approval of highway projects in Montana.

4. Noise

Additional noise will be generated throughout the project by the operation of machinery and equipment during the period of project construction. Noise from traffic movements will increase in the future with or without the new facility due to the trend toward increased traffic. Future legislation will undoubtedly contribute to the control of traffic-generated noise problems at the source.

Traffic-generated noise from high traffic volumes in the year 1994 in this project area will not exceed maximum recommended levels as established by Federal Highways Administration memorandum PPM 90-2 issued in 1973. There are no areas which fall into land use category A (park types) as described in the FHWA PPM 90-2. Using a Design Hourly Volume of 750 vehicles, an average operating speed of 60 MPH, and 11% trucks it was determined that developments falling within land use category B (motels, schools, residences) would have to be closer than 350 feet to the Interstate before the allowable 70 dBA standard would be exceeded. None of the buildings in the town of Garrison lie within this distance. Areas falling within land use category C (developed lands not in categories A or B) would have to be closer than 100 feet from the roadway to exceed the standards. There are no such cases. A nomograph analysis of the interchange ramps shows that the predicted noise levels will be within tolerable limits.

5. Water Quality

There is no appreciable change expected in the quality of the water within the area as a result of the proposed project.

C. ALTERNATIVES TO THE PROPOSED PROJECT

Alternatives to construction of the project as proposed are to build the Interstate in another location, or not to build any Interstate in this area.

The east portion of the project was located to generally follow the present primary highway alignment. This selection was made because there are no special features to be served which impose controls through this section and because this alignment minimizes scarring of the area and avoids encroachment on the Clark Fork.

Three basically different alternate locations were studied for the westerly half of the project. One location was divided into two numbered alternates to reflect a difference in tangent and curvilinear alignment. The alternates numbered one through four are shown on Figure 2. All alternates were based on a four lane design.

An important factor in the alignment study was the location of an interchange in or near Garrison which would serve both the town and U.S. Highway 12. Other major objectives were to provide safe, convenient traffic movements and to avoid infringement on the built-up area of the town.

1. Alternate 1

Beginning at the westerly end of the project, Alternate 1 parallels the curved existing highway until the ridge which lies along the northwest edge of the town is reached. From here, the alignment straightens, makes a multitrack bridge crossing of the BN railroad, and extends southeasterly for a mile alongside the Clark Fork. It then bridges the Little Blackfoot River and the BN railroad again and joins the east half alignment. The original interchange plan provided for a full ramp diamond type west of Garrison out of view of the town.

2. Alternate 2

This alignment is in the same general location as Alternate 1. The main difference is that it continues on a longer curve at the ridge northwest of town and then reverses curvature in the opposite direction to cross the BN tracks on a curved bridge crossing. It then is coincident with Alternate 1 to approximately the middle of the project. This line crosses the railroad yard at a smaller skew angle which reduces the length and cost of the overpass structure. The plan for the interchange was identical to that proposed for Alternate 1.

3. Alternate 3

The alignment of Alternate 3 is generally parallel to, and north of the present highway throughout the west half of the project. It is the longest of the alternates. To provide the most service to the town along U.S. 10 and 12, it calls for an interchange north of the highway in town which would take out quite a number of improved lots, the town school house, and cause severance of some properties.

4. Alternate 4

This location deviates from the present highway at the beginning of the project and crosses the high hill north of town in a flat horizontal curve. It then crosses U.S. 12 just east of town and continues southeasterly parallel to U.S. 10 until it ties in with the Interstate alignment for the east half of the project. The profile for this alternate requires 5% grades over the hill with a 100 foot deep cut at the hill's apex. This high point in the grade would be 130 feet higher in elevation than the highest point of the other three alternates where they pass over the ridge just west of the town. This alternate is the shortest of the four, but was considered the least favorable geologically due to longer, deeper cuts and higher fills, absence of outcrops for analysis, and the generally suspicious nature of the erosional pattern and coulee formation. The interchange site is east of the

existing primary highways' junction east of town. The site is not conducive to a simple layout or no-stop and directional movements due to the junction, the BN railroad line to Helena, and the 5% grade line required to the north.

5. The No-Build Alternate

The no-build alternate is a possibility. If this project were not constructed, it would leave a gap in Interstate Route 90 which is already constructed on both sides of this project and would be inconsistent with the National System of Interstate and Defense Highways Act which provided for this highway network.

In addition, the bottleneck effect produced by the transition from 4-lane to 2-lane is basically a dangerous condition as many accident studies have shown.

For the reasons stated above and because no serious impact will result if the project is built, the no-build alternative is considered unacceptable.

6. Basis of Alternate Location Selection

The selected location approximates Alternate 2 with modifications. It provides the optimum combination of favorable features and excludes the undesirable features of the other alternates as follows: It's profile grade line is much more desirable than the longer steeper 5% grades on Alternate 4. Location studies show it requires lower earthwork volumes than the other alternates with Alternate 4 having the largest quantity and the longest deep cut and high fill. It has more flexibility for shifts in alignment along the ridge northwest of town to utilize the present through cut and to follow the hillside contour than is possible with the tangent alignment of Alternate 1. The

curvilinear alignment along the Clark Fork south of town avoids river encroachment and is more aesthetically pleasing. Right-of-way required for this alternate requires less cultivated land than Alternates 3 and 4, and less improved area in town than Alternates 1 and 3. Its dual interchange service to the town, provides directional free-flow non-stop ramp movements for traffic between the Interstate and U.S. 12 to Helena. It better serves the highway oriented businesses in town along U.S. 12 than the interchange arrangements for Alternates 3 and 4. Its length is intermediate being 0.2 mile shorter than the longest Alternate 3 and 0.2 mile longer than the shortest Alternate 4. Based on the preliminary designs for all four alternates, the selected Alternate 2 had the lowest initial construction cost.

D. RELATIONSHIP BETWEEN SHORT TERM USES OF MAN'S ENVIRONMENT AND LONG TERM PRODUCTIVITY

A short term effect on man's environment in the project area will occur during the construction period when more people will be in the area. This will have some effect on the schools and the area's economy. There will be some disruption of traffic flow in and through the community due to construction equipment operations and temporary detours. Displacement of buildings and people are taken care of under the relocation program. Local access will be changed but will still be available and residents will develop new use patterns and become accustomed to them in a short time.

Land required for new highway right-of-way will be committed to a long term use but the amount is relatively small and will not produce a major effect on the long term productivity of the area. The net benefit to be derived from the safer, more efficient transportation system is felt to far outweigh the minor damages incurred by the small reduction of productive land resources; even though the relative impact will perhaps be greater through this narrow valley than it would be in a wider, larger valley.

E. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The major irretrievable commitment of resources would be the capital expenditures and labor and materials that are committed to the project. The expenditures for capital and labor should be returned in the form of benefits from public use of the project. Materials committed would be gravel and roadbed materials, surfacing materials, and materials required for the construction of drainage structures, bridges, fences and signs.

V. PLANNING AND MEASURES TO MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS

The highway alignment has been chosen to minimize the impact on the natural environment. West of Garrison, the new construction will encompass the present highway where it is not needed to maintain local access. Unsightly remains of previous construction through this area will be eliminated. Topsoiling and seeding will leave the new construction areas aesthetically pleasing. Along the Clark Fork River south of the Garrison railroad yard, the curvilinear alignment eliminates encroachment in the river and river banks. The highway location east of the East Interchange was selected as optimum to avoid encroachment into the Clark Fork. It will also allow incorporation of the existing highway into the new construction, thus minimizing encroachment on adjoining farm lands. Interchanges and the revised local road system were planned to provide public and private access where needed. Stock underpasses and irrigation facilities will be perpetuated where justified. Varying median widths, curvilinear alignment, independent vertical grade lines, slope rou nding, the use of flatter cut and fill slopes, and contour grading have been planned for greater safety and improved aesthetics.

Standard measures of the "Standard Specifications For Road and Bridge Construction" of the Montana Department of Highways are applicable and will provide for reclamation of borrow material sites and special haul roads by shaping, topsoiling, and revegetating, salvaging of topsoil, topsoiling and seeding of all new roadway backslopes that are 2:1 or flatter, and obliteration of present highway remains. Standard erosion control measures during construction will be required of the contractor to prevent siltation of streams and destructive erosional wash. These measures will include temporary shaping of subgrades and use of temporary slope drains, temporary settling basins for erosion control during grubbing operations if needed, and control of extent of project opened simultaneously to construction. Water pollution from construction operations will be controlled by adhering to existing regulations of the State under enforcement by the Montana Board of Health and Environmental Sciences.

Clearing and grubbing operations will be restricted to allow removal of only that vegetation necessary for excavation, embankment placement or bridge construction. Stream bank vegetation will not be touched except where necessary for bridge construction. Construction work trails will be kept well within areas requiring clearing. Clearing and grubbing disposal will be done by burying in approved areas, by chipping, or by controlled approved burning.

Air pollution from construction operations will be restricted by adherence to State and Federal requirements and will be under enforcement control by the Montana Board of Health and Environmental Sciences. Hot-mix plants will be required to have a dust collector constructed to waste or return uniformly to the hot elevator all or any part of material collected. Scrubbers or similar devices will be used when required by the State Board of Health. Any burning of clearing and grubbing debris must be done under a permit from the Director of Air Pollution Control and Industrial Hygiene, Montana State Department of Health. Permits stipulate the conditions and method of burning and must be per-

formed under the constant care of competent watchmen. The provisions for air quality controls are not in conflict with the State Implementation Plan as prepared by the Department of Health and Environmental Sciences. Compared to the present highway facility, the improved operational characteristics of this proposed Interstate peoject will minimize the emissions from motor vehicles to which people, vegetation, and structures are exposed. The free-flow, non-stop interchange layouts at Garrison will contribute to reduced vehicle air pollutant emissions through non-stop movements in contrast to conventional diamond type interchanges which require stop and slow moving turning movements. The smooth operation of transportation systems is one of the most important means of reducing air pollution. Vehicles cruising at a constant speed on an uncongested highway emit relatively fewer pollutants than does traffic operating under congested conditions. Measurements show that the idling emission rate is 1.5 times the rate for cruising vehicles and the deceleration emission rate is 9 times the cruising rate. High cruising speeds accelerate the mixing of all emission pollutants and prevents zones of intense concentration from forming in sensitive areas.

Use of paved detour roads will ensure safety and minimize disruption of highway service to the highway users during construction. These paved detour roads and the standard contractor watering requirements on haul roads and embankment construction will minimize the fugitive dust associated with construction projects which can be a nuisance to the travelers and the area residents alike. Special provisions will also cover the temporary bridging of the Little Blackfoot River. The temporary bridging is necessary for hauling of materials and construction of the permanent bridge.

Requirements will be: prevention of sediment or silt laden water from entering the flowing river, prohibition of deposition of excavated foundation materials into the flowing river, construction of retaining ponds for clarification of cofferdam discharge, removal from the streams of any temporary debris or obstructions due to construction operations, use of a cofferdam for the construction of the middle pier of the Little Blackfoot River bridges, and prohibition of construction of earth or gravel embankments into flowing streams for cofferdam or work bridge construction.

The construction of the bridges and the west bank dike from the Interstate to the railroad will affect the stream. This impact will be minimized by timing the construction to correspond with natural low flow periods or those resulting during peak irrigation periods. The Little Blackfoot River is extensively used as an irrigation water source. Also, during the fish spawning season, from September 15 to November 15, no construction will be permitted which would affect the stream or stream banks. According to the Department of Fish and Game, it is possible that some spawning and hatching may take place at times other than between September 15 and November 15. It is felt that by strict adherence to the aforementioned requirements concerning prevention of sediment, etc., disruption of these activities will be minimized. Protection of river bank vegetation to the maximum extent practicable will be required along borrow corridors and in dike and bridge construction and riprap placement.

The contractor will be required to exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful wastes will not be discharged into or alongside of rivers, streams, impoundments or into natural or manmade channels leading thereto. The contractor will be required to meet the requirements of the applicable regulations of the State Fish and Game Department, State Board of Health and other State or Federal regulations relating to the prevention or abatement of water pollution.

Relocation assistance to displaced families and businesses and provisions for access to the town and community areas during construction are measures which will help minimize harm in the socio-economic field. The church which was within the project right-of-way limits in Garrison has been moved to Avon, 13 miles to the east. It could have been relocated within the town of Garrison but the owners chose to move it to Avon. Religious services are available to the people of Garrison in Avon, or in Deer Lodge located 10 miles east on I-90.

It is required by State and Federal law and is in the public interest to preserve any historic, prehistoric, or paleontological remains of scientific value. If construction excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archaeological significance, the operations will be temporarily suspended. Archaeological authorities will be contacted to determine their disposition. If the remains are found to be of significance, the excavation of the site will proceed in a manner to preserve them for removal and delivery to State authorities. The University of Montana Department of Anthropology Statewide Archaeological Survey has the qualified personnel and experience in this field and assists the Department of Highways to preserve discovered artifacts. Prior to construction, a detailed review will be made by the Statewide Archaeological Survey to ascertain any items of significance.

VI. PUBLIC HEARINGS

Three public hearings covering the location of this project have been held in Garrison. The first was on July 24, 1964. At that meeting, the alignment through town and also one over the hill behind Garrison similar to Alternate 4 were presented. The Alternate 4 line was recommended by the State at this hearing and found acceptable to the community. As preliminary engineering proceeded on this alternate, it became evident that there were many problems associated with it. A detailed location study of Alternates 1,2,3, and 4 was subsequently made.

An alignment similar to Alternate 1 with interchange modiciations was proposed at the second public hearing on October 9, 1968. The only objections to this proposal related to local public access facilities. The necessity of a vehicular separation at Warm Springs Creek one mile west of the project to provide access for the school bus, farm equipment, cattle movements, local rural business, and employees of the mining operations located west of the town was voiced by many of the residents. This reaction and written petitions subsequently sent to the Montana Department of Highways initiated a cost justification study which resulted in the approval, design, and construction of a grade separation. Although these dual Interstate structures over the local road were not on the Garrison project itself, they related to the need for local access and continuity of the frontage road system on the Garrison project.

The third Public Hearing was held on July 30, 1970. The Interstate plan presented was basically that of Alternate 2. It was very similar to the plan presented at the previous public hearing with the location being essentially the same. One exception was its curvilinear alignment with the accompanying advantages previously described in this report. Another significant change presented to the public and incorporated into the design was the relocation of the frontage road extending to the west from Garrison. It was originally planned to locate this road parallel to the Interstate over the hill west of town. This location was revised to extend west from Garrison parallel to the railroad tracks and then to swing north around the hillside and connect to the present highway. This road is designated Line W. The new location eliminated the steep grade problem for slower moving local traffic in and out of the town.

The explanation of the proposed plan produced some public response at the last hearing. The most significant points raised were the following: A local retailer expressed concern over assumed possible future loss of tourist trade due to the fact his establishment will not be visible from the Interstate because of its high embankment through the town. He appeared to be satisfied, however, when he was assured that highway signing indicating the availability of local services would be considered. Since then,such signing has been included in proposed signing plans for the project.

Another local businessman was concerned that the new highway would block the natural drainage route of storm surface runoff. An explanation of the hydraulic design criteria and a statement of assurance of intent to provide a drainage system to take care of the runoff satisfied him. The planned drainage design will take care of the surface runoff from the existing low ground areas south of highway U.S. 10 in Garrison. This will be accomplished through a series of culverts and contour grading of the west interchange to ensure proper drainage.

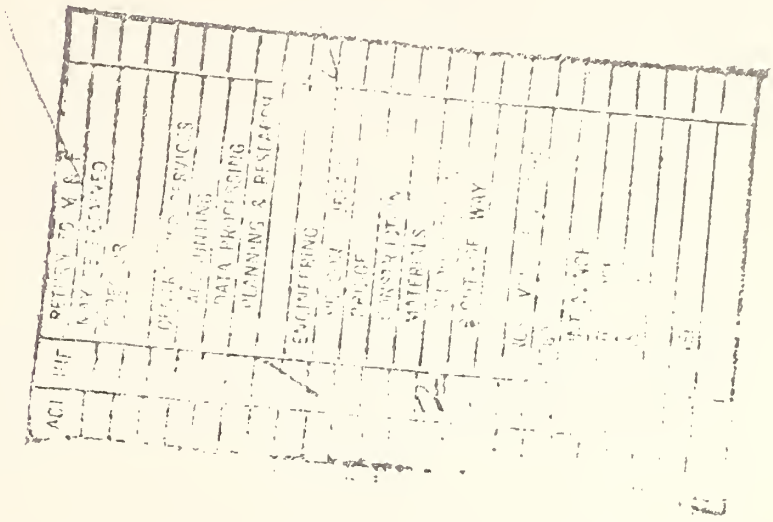
There were no objections voiced to the proposed location and design of this project and it was considered to be satisfactory and acceptable to the community.

The Interstate project as proposed and presented at the last public hearing in Garrison was also presented earlier for Clearinghouse action at the fifth meeting of the Highway Joint Development Council held in Helena on June 10, 1970. There were no questions, objections, or testimony offered regarding the project and it was considered acceptable to all concerned agencies as presented.

The following are letters of comment received relative to the draft E.I.S. Where a reply is in order, it follows the letter.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service Western Region
P. O. Box 11183 Federal Building
Salt Lake City, Utah 84111
WFWx2

May 29, 1974



Mr. H. J. Anderson
Director of Highways
State of Montana
Department of Highways
Helena, Montana 59601

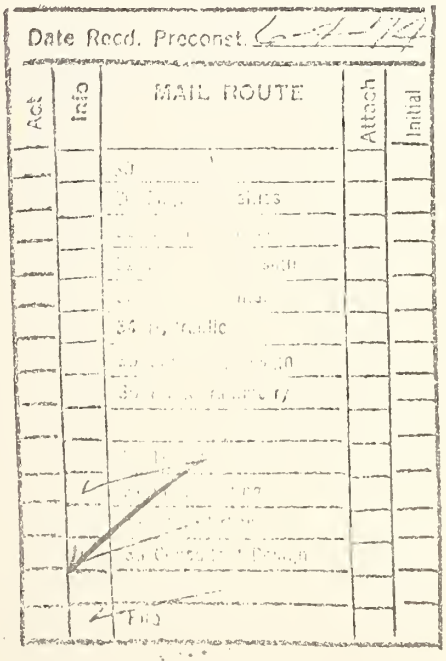
Gentlemen:

In accordance with our Agency instructions, we have forwarded your request concerning the referenced environmental impact statement to National Oceanic and Atmospheric Administration Headquarters for further action.

This Regional Headquarters has no specific comments to make concerning your environmental impact statement.

Ref: E.I.S., Project I - IG 90-3(7)168 & I 90-3(2)179 Garrison East & West

cc: AD-43, NOAA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80203

JUN 13 1974

Mr. Stephen C. Kologi, P.E.
Montana Department of Highways
Helena, Montana 59601

Dear Mr. Kologi:

The Environmental Protection Agency has reviewed the draft environmental statement for Garrison East and West and finds that it satisfactorily addresses the environmental impacts of the proposed action.

In accordance with current EPA guidelines, the proposed project and environmental statement will be listed in the Federal Register as LO-1. A copy of the rating system is enclosed for your information.

Please send us two copies of the final statement.

Sincerely yours,

John A. Green
Regional Administrator

Enclosure

Date Recd. Preconst. 6-17-74

Act	Info	MAIL ROUTE	Attach	Initial
		30		
		30 Eng. Specialties		
		31 Co[illegible] Plans		
		32 Loc[illegible] Road Design		
		33 E[illegible]mental		
		34 Hydraulic		
		35 Surveying Design		
		35 Photogrammetry		
		36 Traffic		
	✓	37 Pub. Hearing		
		38 Sec. Urban		
		39 Consultant Design		
	✓	File		

3Ea

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P. O. Box 970, Bozeman, Montana 59715

June 24, 1974

H. J. Anderson
Director of Highways
Montana Department of Highways
Helena, Montana 59601

Dear Mr. Anderson:

Re: Projects I-IG 90-3(7)168 and I 90-3(2)179, Garrison East and West

My staff in Deer Lodge reviewed the Garrison East and West Highway project proposal. Attached are their comments on this environmental statement.

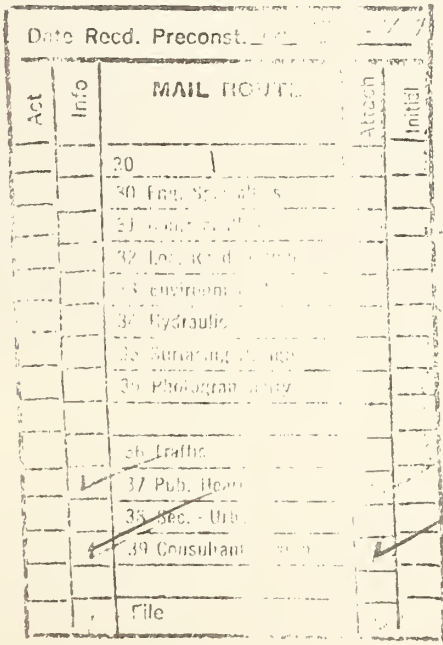
We appreciate the opportunity to review and comment on the proposed project.

Sincerely,

A. B. Linford
State Conservationist

cc: Administrator, SCS, Wash., D. C.
Coordinator of Environmental Quality Activities,
Office of the Secretary, USDA, Wash., D. C.

Attachment



COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT
GARRISON EAST & WEST

1. The statement provides a good overall informational picture of the project. General information on location, avoidance of existing river banks and channels, control of dust and sediment produced during construction and general planning for reclamation and seeding of construction and borrow areas appears to be very good. Also the general planned approach to minimizing sediment produced, channel change and natural flow disruption during construction of the Little Blackfoot River bridge appears to be good. A good monitoring and inspection program during construction should be considered to ensure the intent of these plans.

2. The impact statement refers to the disruption of irrigation facilities and their replacement as needed. The major irrigated areas affected by the project are at the west end about station 30 + 60 to 50 + 00 and on the east end from about station 310 + 00 to the end of the project. About the only other area where irrigation facilities will be disrupted is in the Garrison East Interchange. This irrigated area appears to be almost entirely taken out of production by the interchange. No details are provided concerning location or replacement of disrupted irrigation facilities. Therefore, we can not comment on adequacy, proper location or placement of proposed replacement facilities. We strongly suggest that irrigation facilities receive detailed attention to insure proper functioning after replacement is completed.

3. The statement refers to the elimination of an unhealthful slough condition at Garrison. This will provide positive benefits through elimination of potential health hazards. No detail or location of positive drainage outfall is given. We can only assume that the location of the drainage outfall will be from the junction of Line M and the new ramp termini westward running north of the old part of Garrison and then southwest to the river following the present slough areas. The statement refers to the collection of surface runoff waters in these slough areas but no mention is made of subsurface water tables. The entire project area from the foot of the hill west of Garrison through the Garrison East Interchange crosses an area that is affected by relatively high water tables and is interlaced by old stream meanders. Construction of massive highway fills could possibly affect subsurface water movement by compaction of subsoil layers and cutoff drainage from some old meanders. This could aggravate slough and high water table conditions unless adequate drainage is provided.

4. There is one subdivision development area within the project. It lies northeast of the project and adjacent to it from about station 260 + 00 to the Beck Hill Interchange. At present it is not an accepted platted subdivision. However, a few parcels were previously sold before new atate subdivision regulations were formulated. There are presently 3 residences and one small wood products business in this development area. Access should be provided to this area. It appears that access could be provided by construction of an underpass near the end of the proposed Beck Hill Acess Road or the possible extension of the same road to the potential fishing access site.

5. Major access for livestock movement accross the existing highway is provided by the underpass at about station 380 + 70. About 3000 head of mature cattle plus calves are moved twice a year by one operator alone through this route. No major problem is experienced at this time with movement through the single lane structure. Major problems could occur with construction of the second lane structure if the structure resembles a long dark tunnel. It would be very difficult or impossible to move livestock if construction is occuring during the periods of the year when livestock are normally moved.

6. O'Neill Creek is the only drainage on the east end of the project area with a definate channel. However, Helena Gulch, Freezeout Creek and Jake Creek drainages could contribute significant runoff from a 50 year storm event that would affect the project. These watersheds contain an approximate 14,000 to 15,000 acres. Normal runoff is diverted for irrigation or intercepted by the Kohr-Manning ditch which follows the eastern edge of the meadows paralleling the existing Deer Lodge NS Interchange and the east end of the project area. These drainages have no definate channels through the meadows but surface flows would be generally west and north. Surface flows would tend to accumulate in the vicinity of station 360 + 00 to 390 + 00. Present outlets for irrigation water, tailwater and drainage are culverts under the existing highway at about stations 361 + 00, 363 + 00 and 387 + 00. We suspect that in the event of a 50 year storm event these culverts would not handle the accumulated surface flow and the existing underpass would be flooded.

Area ranchers have mentioned that construction of the original two lanes of the Deer Lodge NS portion of I-90 has resulted in delayed haying operations on these low lying meadows. If this is in fact true, we suspect that compaction of subsurface materials caused by highway construction has restricted shallow subsurface drainage. There is a possibility that completion of 4 lane construction could further restrict shallow subsurface water flows.

U.S. DEPARTMENT OF AGRICULTURE - Soil Conservation Service

1. A continuous full-time inspection program is conducted by the Montana Department of Highways on all major construction contracts. It is accompanied by the authority provided for in the contract documents to require compliance with the plans and specifications and to suspend unacceptable work procedures and to require correction of unacceptable work or work operations.

2. Changes in irrigation systems are thoroughly studied during the design phase of the project. The construction plans show the details of the final changes required and reflect their clearance and acceptability by the landowner gained through the R/W negotiation process.

3. Details of the finished ground contours and size and location of the drain pipe and ditch to provide positive drainage of the referenced slough area are included in the construction plans. This drain extends from its inlet north of the intersection of Line W with the West Interchange bridges in a southwest direction to the Clark Fork River.

It is expected that the highway fills extending from the West Interchange through the East Interchange will not appreciably affect the permeability characteristics of the subsurface materials. Soils drilling of numerous holes reveal that sands and gravels are prevalent near the surface of the valley floor. For a length of one half mile between interchanges the fill height will be less than ten feet and the fill weight will not cut off the subsurface movement of ground water through these strata. The discontinuity of the higher fills at the interchanges for the new bridge openings lengths of 550 feet and 450 feet at ground level will contribute to retention of existing subsurface flows in these areas. Surface drainage of the meander at Station 110 will be accomplished through the use of a pipe culvert. Pervious material will be placed in the base of old stream meanders where ground water is evident and in areas containing organic deposits which will be removed.

4. Access to this area will be available from the Beck Hill road (FAS 407) and also by using the Access Road from the Beck Hill Interchange back to about station 302 where a large vehicular underpass will be provided under the Interstate.

5. The 46 foot existing underpass will be increased by 84 feet to accommodate two new lanes and shoulders for northbound traffic and to provide a flat cover over the median for safety. The 20 foot width and 14 foot height of the passageway are compatible with the ultimate length to avoid a dark tunnel effect. This size underpass has been used on many previous installations with no evidence that they are unsatisfactory for accommodating cattle movements of this magnitude.

Specifications will be included to require the scheduling of the construction work to accommodate the necessary transfer of cattle through the underpass.

6. It is expected that during infrequent periods of high runoff such as for the 50 year design storm event and for other recurrence

intervals of shorter periods that some flow of runoff waters through the underpass could occur for short time periods.

A review of the work done for this project was made relative to the drainage mentioned. The project plans call for extending existing drains and irrigation pipes south of O'Neill Creek. The present O'Neill Creek crossing is a 4 foot by 6 foot box culvert with a calculated capacity of 180 c.f.s. (computed without overtopping of the present highway) which has been in service for decades. It is to be replaced with a double pipe installation of six foot diameter structural plate pipe with a calculated capacity of 450 c.f.s. The new installation size is based on the theoretical requirements for the O'Neill Creek drainage area. No doubt some high runoff flows from the other drainages to the south, end up crossing the highway at the O'Neill Creek crossing after being conducted there through irrigation ditches. Other portions of this runoff are carried under the Interstate on the adjoining project to the south and if these pipes are too small there could be some passage of runoff through the underpass during high flow periods.

United States Department of the Interior
OFFICE OF THE SECRETARY
MISSOURI BASIN REGION
DENVER, COLORADO 80225

ER-74/663

HELENA, MONTANA

JUN 27 1974

Mr. H. J. Anderson
Director of Highways
Montana Department of Highways
6th Avenue and Roberts
Helena, Montana 59601

Dear Mr. Anderson:

This is in response to your letter of May 6, 1974, requesting the Department of the Interior's comments on the draft environmental statement for I-90, Garrison East and West in Powell County, Montana (Project I-IG 90-3(7)168 and I 90-3(2)179).

General Comments

The draft statement covers many of the environmental concerns of this Department. However, there are several areas where additional information and clarification are needed to strengthen the statement.

It is quite apparent that this proposed project is a small segment of an overall highway plan to improve and upgrade Interstate 90 from the east border to the west border in Montana. (See Projects I-90-1(13)39 and I-90-1(40)43.) We do not believe the piecemeal approach is the best way to assess the environmental aspects of any highway project. Effects of short segments may be small, but the cumulative effects, such as those on present agricultural land uses, of the overall project may be significant. A segmented approach often forecloses options available to minimize overall impacts. Such options could be developed under more comprehensive planning. The piecemeal approach could eventually lead to environmentally destructive action being justified on the basis of the commitment of resources in the part of the project already underway or completed.

The final statement should graphically relate this small project to the overall highway plan to improve and upgrade I-90 in Montana. We suggest a sketch map of I-90 locating the various projects recently completed, underway, and planned for the route. This would facilitate the reviewer in assessing the cumulative effects of the project.

Mr. H. J. Anderson, Helena, Montana

Specific Comments

1. Summary

Under III., Environmental Impacts, it should be recognized that about 7,000 feet of public access to the Clarks Fork River will be eliminated, if other alternatives of providing the access cannot be found. (2)

On page 2, the statement that there will be no adverse impact on the water quality in the project area should be deleted or qualified. For example, there may be short term degradation due to introduction of sediments during the construction period. Erosion from embankments prior to stabilization may also occur. It is not known whether icing conditions on the bridge over Little Blackfoot River during the winter period will develop, but if this does occur, the situation may require the use of salt and cinders. These products, if allowed to enter the river, would result in water quality degradation. In addition, the elimination and filling of the slough which exists near Garrison, and the proposed direct piping of the water into the Clarks Fork River, could also potentially degrade water quality in the immediate area of the outfall. Indirectly, the highway project could impact water quality by enticing large numbers of people to the area, resulting in increased sewer loadings. (3)

2. Description of the Existing Environment

This section of the statement adequately covers the geology of the project area. However, environmental problems that may result from local geologic conditions should be recognizable from pre-construction investigations and should be within the range of standard engineering practice.

An assessment of the impact on fish and wildlife (pages 11 and 12) should be expanded. As examples, the statement should indicate the absence or presence of threatened wildlife species. Also, in addition to the beaver, there are probably other animals classified as furbearers inhabiting areas within the project area, such as muskrat and mink. There is no mention at all of non-game wildlife species. An attempt should be made to list these in the discussion. There are undoubtedly a number of rodents, such as cottontail rabbit and thirteen-lined ground squirrel; several species of such omnivores as the skunk and raccoon; and carnivores such as the badger, in the area. (4)

Mr. H. J. Anderson, Helena, Montana

Since all properties on the National Register of Historic Places are published in the Federal Register, the statement should reflect consultation with the issue for February 19, 1974, and all subsequent monthly supplements. When it is found that a project will have an effect upon a National Register listing, the statement should reflect compliance with Section 106 of the National Historic Preservation Act of 1966. (5)

The statement does not adequately document that there are no historical and archeological sites. What is needed here is the opinion of a trained archeologist. The final statement should establish that, consistent with the requirements of the Environmental Policy Act of 1969, an archeological survey, if it has not already been made by that date, will be made. Furthermore, if in the course of making such a survey any site believed to be of primary significance is discovered, then an in-depth investigation of this site must be made. Such action is to be taken in advance of any road construction activity. Moreover, the final statement should state in compliance with Title 23, Chapter 1, Subchapter H. Part 765, that construction will be halted and archeological and paleontological salvage operations will be completed if any such sites of significance are found during project development. (6)

3. Evaluation of Environmental Impacts

On page 17, it is implied that a natural slough is being polluted from surface runoff waters and that this situation will be eliminated by filling. This statement should be clarified. Natural sloughs, especially in semi-arid areas, generally provide a variety of wildlife habitats and are unique ecosystems. The slough in question is undoubtedly unhealthy because of the pollution. However, even though it is apparently odiferous, it probably supports duck nesting areas and acts to some extent as a purifier and as a catch-all basin which prevents raw effluent from entering the Clarks Fork River. A direct discharge path of polluted water via culverts to the Clarks Fork would add the pollutants to this stream system. An interceptor pipe which collected the polluted water and routed it around the slough would accomplish the same purpose, but would preserve the slough area. If this alternative was considered, it should be mentioned. (7)

Mr. H. J. Anderson, Helena, Montana

(8) The loss of about one mile of stream bottom land previously undisturbed by highway construction is alluded to on page 18. The last sentence in the paragraph implies an insignificant impact. This is questionable, without information being presented on the magnitude of past losses of such habitat, as well as analysis of how much of this habitat is left undisturbed within the project. The reason few white-tailed deer exist in the area at the present time may be because of the loss of habitat from previous development, including highway construction. Each one of these developments considered separately almost always shows insignificant impacts, but the conglomerate developments over the years may have had a significant impact on the wildlife. Therefore, we suggest that this loss of habitat be presented in the context of "what is left".

(9) The statement implies on page 20 that abandoned meanders affected by the project will be filled in. Is filling the entire meander necessary? Old meanders are often good wildlife habitats and eliminating these areas may well impact certain species of wildlife such as game birds and rabbits. Discussion of such impacts should be included on page 18, if pertinent.

(10) We believe that the filling in of some abandoned meander areas of the Clarks Fork River could be avoided. Such avoidance could constitute a mitigating measure.

(11) In this same vein, we further suggest that every effort be made to avoid undisturbed bottom land areas, brush draws, coulees, and patches of shrubby vegetation for embankment material. Obtaining embankment material from such sources may impact wildlife habitat.

(12) The statement indicates on page 20 that the gravel borrow area will be reclaimed. However, it is not clear to us if this reclamation will be accomplished in accordance with a plan approved by the proper state agency. Such information should be included in the final statement.

(13) We suggest also that this section of the statement discuss in detail the type and degree of disruption or alteration of stream bank. There will be a small loss of stream bottom area for production of invertebrates due to installation of the piling. The amount of stream bank that will be modified with embankment and riprap should be indicated. The discussion should also include a statement on whether or not diking is expected to result in a future change in channel geometry downstream.

Mr. H. J. Anderson, Helena, Montana

(14) The discussion of the alternatives on pages 23-26 should be expanded. Since the project poses a threat of losing some 7,000 feet of existing public access to the Clarks Fork River, every effort should be made to explore all alternative ways, such as the Beck Hill Interchange potential, to provide continued access, and thus mitigate this adverse impact.

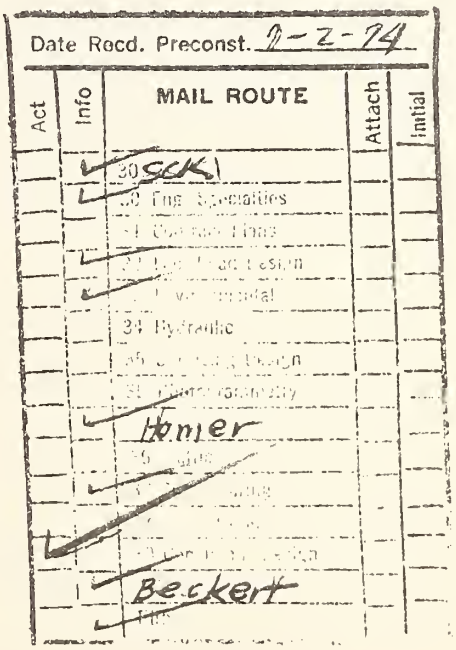
(15) The section, E. Irreversible and Irretrievable Commitments of Resources, should be expanded to discuss the indirect adverse effects which will occur as a result of increased growth the highway improvement may encourage in the area. In addition, a discussion is in order on the indirect loss of wildlife and agricultural products in the area committed for the project. For all practical purposes, the highway will exist for a considerable period of time and the commitment of land for the project is relatively permanent.

Sincerely,

John E Rayburn

for Special Assistant
to the Secretary

cc: Federal Highway Administration, Region 8, Denver, Colorado
Federal Highway Administration, Division Engineer, Helena, Montana



U.S. DEPARTMENT OF THE INTERIOR -

Although comments from the D.O.I. were not received within the specified time limit, we offer the following responses as a courtesy to the agency.

1. We seriously doubt that a sketch map of Interstate 90 would be of benefit to the reviewer. We therefore have not included this feature. Mention was made in the draft statement of the completed sections of I 90 on either end of this proposed project.

2. This is recognized and was covered in more detail on page 19 of the draft statement.

3. This statement has been deleted.

4. We see little value in describing non-game species in the EIS unless the impact is unique for some reason.

There would probably be some impact on furbearer populations but this would not be too serious since we would not harm much stream bank vegetation.

5. This was covered on page 15, Section J and by the letters in the Exhibit section of the draft statement. However, to clarify the matter further, the Federal Registers were consulted.

6. This was covered on page 31 of the draft statement.

7. This slough is being filled in because it falls within the physical limits of construction. As stated in the D.E.I.S., pollution of surface waters will be largely eliminated through the proposed sewage treatment plant at the truck stop.

8. As can be seen from the aerial photo, the area in question has been transected by two railroads. Some of the area has been cultivated. Most is grazed by cattle and horses. A trailer court and other dwellings occupy part of the area. Considering this existing human impact and the relatively small size of the area, it couldn't support more than a few deer, if any. A local resident reported that game birds are not common in the area. We feel our evaluation of the impact is correct (though perhaps a bit brief). We agree that the area would be better wildlife habitat if the human development were not present. However, the basic damage has been done and probably will not be reversed. In terms of the wildlife habitat that is left, the project should not have a serious impact.

9. Filling is necessary in areas affected by construction of the roadway prism. Other portions of abandoned meanders not actually covered by construction will be left as is.

10. We have avoided all but that which is necessary.

11. Every effort will be made to avoid disturbind these areas.

12. Reclamation will be accomplished according to an approved plan. See also statement at top of page 28 of the draft statement.

13. We feel that this has been adequately discussed on page 20 and page 30 of the draft statement.

We have no reason to believe that diking will result in a future change in the channel geometry downstream.

14. As stated on page 19 of the draft statement, we are investigating access to this stretch

of river. Other possibilities have been studied (such as slip ramps) but are not feasible.

15. To our knowledge, the project will not contribute significantly, if at all, to increased growth in the area. Indirect loss of wildlife and agricultural products is therefore not expected to occur to any great degree.

It is true that the highway will exist for some time, but if it is ever abandoned, it could be restored to its present state. Thus, strictly speaking, it is not an irreversible or irretrievable commitment.

VII. EXHIBITS

STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

November 27, 1973 39-JGS

I-IG 90-3(7)168 &
I 90-3(2)179
Garrison-E. & W.

Mr. Ashley C. Roberts
Administrator, Recreation and Parks
Division
Montana Department of Fish and Game
Sam W. Mitchell Bldg.
Helena, Montana 59601

Dear Mr. Roberts:

The Montana Department of Highways is in the process of preparing a draft environmental statement for the above project.

We would appreciate a letter from you identifying any properties in the project area which may be eligible for nomination to the National Register of Historic Places. As far as we know, there are none presently listed in the Register.

An aerial translite print showing the project area is attached for your use in this matter.

Very truly yours,

H.J. ANDERSON,
DIRECTOR OF HIGHWAYS

By _____
Stephen C. Kologi, P.E.,
Supervisor-Preconstruction Sect.

39-SCK/GLA/JGS/lm
Attachment

cc: G.L. Anders

STATE OF MONTANA

DEPARTMENT OF

FISH AND GAME

Helena, Montana
November 29, 1973

Re: I-IG 90-3(7)168
I 90-3(2)179
Garrison-E. & W.

Mr. Stephen C. Kologi, P.E.,
Supervisor-Preconstruction Section
Department of Highways
State Highway Building
Helena, Montana 59601

Dear Mr. Kologi:

We have reviewed the proposed routing for the interstate highway at Garrison east and west.

We do not have any properties within the proposed highway right of way that have been nominated to the National Register, nor are we considering any at the present time.

Sincerely,

Ashley C. Roberts

Ashley C. Roberts
Administrator
Recreation and Parks Division

ACR/bd

Date Recd. Preconst. 11-30-73

Act	Info	MAIL ROUTE	Attach	Initial
		30		
		30 Photogrammetry		
		30 Location & Design		
		30 Environmental		
		31 Right of Way Plans		
✓		32 Right of Way Design		
		33 Right of Way Titles		
		34 Appraisal		
✓		R.B. Dunda		
		35 Relocation		
		37 Public Hearings		
		38 Urban Program		
✓		39 Secondary Program		
		File		

Let & File-2

BEGIN GARRISON EAST & WEST
END GOLD CREEK EAST
0+00
50+00
100+00
150+00
TOWN OF GARRISON
GARRISON WEST INTERCHANGE
GARRISON EAST INTERCHANGE
US Hwy 12
US Hwy 10
B.N. Railway
Line Y
Line W
Little Blackfoot River
T.9N.-R.10W.
T.9N.-R.9W.
C.M.St.P.&P. Railroad
Clark Fork

SCALE: 1 Inch = 1000 Feet (Approx.)

4 LANE INTERSTATE

GARRISON EAST & WEST

I-IG90-3(7)168 & I90-3(2)179

FIGURE 1: LOCATION PLAN


THE GREAT SEAL OF THE STATE OF MONTANA
ORO -Y- PLATA